

Road Construction

Tennessee Department of Agriculture, Division of Forestry

Timber sales require skid roads to bring logs out of the woods, and they often require haul roads for trucks. Roads can vary from a simple dozer trail to a graveled, cross-drained all-weather road in rough terrain. The following information should be sufficient for average circumstances. Special skills and experience might be needed in constructing roads in more difficult situations.

Specifications for road construction should be written into contracts so that the roads are an asset to the property rather than a liability.

The first step is to flag a trial road centerline. Keep the grade below 10%. Stay as far from streams as possible. Do not put the road directly on a ridgetop, but on the ridge shoulder where it can drain. Critical “control” points might determine the route of the road. These could include wet areas, creeks, rock outcrops, or a location for a switchback. If switchbacks or similar sharp turns are needed, construct them on a 60-foot radius to the centerline.

The initial dozing should have few cuts and fills and might remove as little as six inches of soil. Push debris to the downhill side, where it will catch sediment that washes off the road.

On subsequent cuts install broad-based dips every 140 to 300 feet, depending on the steepness of the road grade. Broad-based dips are built into the road grade by backsloping at 3%. These dips are in effect a rolling of the road grade. Dips and wet areas should be armored with 3” gravel.

Outslope or inslope the surface at 3% (1/4 inch per foot.) This will remove water from the surface and prevent erosion. On flat ground, crown the road at 3%. Inslopes should be used where a slippery surface could create a safety hazard. Culverts or open-topped log cross drains will be needed to drain ditches of insloped roads.

Make the final road surface at least 12 feet wide. Balance fills and cuts, and try to minimize disturbance. This will save money and reduce soil movement. Construct several months in advance to allow fill to settle. Do not use topsoil as fill.

Avoid constructing in wet weather. Avoid crossing streams. Where streams must be crossed, do so at a right angle. Refer to state Best Management Practices guidelines for appropriate crossing structures. Where the road follows an old road grade, disturb the surface as little as possible.

Flag skid trails prior to logging. Locate them on the contour to the extent possible. Keep the grade below 10% (short stretches of up to 30% are acceptable.)

Water bars should be installed on skid trails and temporary roads when the sale is finished. They should be 8-12 inches deep and angled to the downhill side about 30 degrees.

Spacing of waterbars depends on slope and soil type, but a general guide is:

5%	125'
10%	80'
15%	60'
20%	50'
25%	40'

Sow exposed soil to grass, using a rate of 30-40 lbs./ac fescue and 60 lbs./ac wheat between early March and mid-April, or mid-August to mid-October. Late sowing (May – early June) can be done with 30 lbs./ac sericea lespedeza.

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